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ABSTRACT

This document is intended to help literacy practitioners and others in South Carolina promote workplace literacy and basic skills development programs. The introduction examines the following topics: South Carolina's current workforce and its outlook; the definitions of literacy and workplace literacy; the need for workplace literacy and basic skills development; and workplace literacy's role in bridging the skills gap. The next section lists key workplace literacy components and characterizes basic, modified, and customized workplace programs. A section on the challenges to developing workplace programs considers ways government and service providers can promote workplace literacy and basic skills development, the importance of better training and staff development, and the inadequacy of workplace education alone. The following steps in developing a workplace program are detailed: (1) have planners create community awareness; (2) develop readiness within willing businesses; (3) conduct a situational analysis to identify the business's needs and capacity to address workers' literacy problems; (4) have the planning team negotiate the workplace intervention; and (5) establish a partnership for program planning and implement the workplace literacy program. A process for evaluating workplace programs is presented along with frequently asked questions and an annotated listing of 17 available resources. (Contains 14 tables/charts and 57 endnotes and references.) (MN)

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Promoting Workplace Literacy and Basic Skills Development

A Report of the
Institute on Family and Neighborhood Life at Clemson University

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Introduction

The United States, like many nations, is being challenged by the complexities of the 21st century. Rapidly changing technology and communication systems have changed the way we think and work. Our nation's workplaces have responded to these changes. Technology in many cases has replaced the assembly line. Yet little has changed in the way we educate and prepare our workforce. We must change the way we prepare for work, if we are going to remain competitive for the next 100 years.

> *"Literacy—real literacy is the essential raw material of the information age. We are entering an era of lifelong learning that merges work and education."*
>
> *David T. Kearns*
> *CEO, Xerox Corporation*

Federal legislation has already changed how employers and educators are thinking about linking adult education and workforce education. In 1998 the federal government enacted new legislation that targeted the American workforce. The Adult Education and Family Literacy Act within the Workforce Investment Act became law (WIA-P.L. 105-220). The law promotes what legislators feel is a "one stop" approach to adult education and training. Through a "one stop" system, information about and access to job training, education and employment would be available at a single neighborhood location. Employers would have a single point of contact to provide information about current and future skills needed for their workplace and to list job openings for those who qualify. The rationale is that everyone (job-seekers, workers, and employers) benefits from having a single system for finding and maintaining job-ready workers. With the passage of WIA those interested in literacy education are finding that they must work together in ways that they never have before. For many years "turf wars" have existed among literacy providers with providers competing for limited funds. Compliance with WIA is forcing many literacy providers to make peace.

South Carolina like most other states is vulnerable. The challenge of preparing those who will make up the workforce of tomorrow is enormous, this is exacerbated by the need to retool and retrain those who are working today. Determining how to best do this is a challenge in and of itself. It becomes even more

difficult when coupled with legislation that is creating a new standard for how we link education and work. One thing is certain, "change is inevitable." This report explores the changing nature of work and the new level of literacy and basic skills needed for a competitive workforce.

What Is the State of Our Workforce Today?

Nearly two decades have gone by since the American public was first alerted to the impending crisis facing our nation if attention was not paid to the lack of literacy skills of the adult population.[1] It was felt then that low levels of literacy among the workforce would result in a gradual decline in American competitiveness and would broaden the disparity between those in our society who were skilled and those who were not. Although workplace education was not new the reality of the complex economic and capacity changes created renewed interest in workplace literacy and basic skills programs.[2]

In the past, agriculture, mining, and labor-intensive manufacturing supplied the bulk of the jobs. Today workers in these industries are losing their jobs and finding that they do not have the skills necessary to retain their place in the labor force. Few jobs remain that don't require good, solid basic skills that can be further enhanced by specialized job training. New jobs call for a more diverse mix of skills. Many employers are making greater investments in training and they expect their employees to take advantage of training opportunities. The textile industry can be used as an example of how work has changed. Twenty years ago one of the most frequent causes of production "down time" was due to machinery failure. When the machinery failed the production line stopped while repairs took place. Today much of the production process is handled by computerized systems. Operators are responsible for monitoring the system and pinpointing problems, thus reducing "down time" in the production process.

Far-reaching shifts in employment like those in the manufacturing industry are not likely to be reversed. What is being called an "information revolution" and a new "knowledge-based" economy has reshaped how work is done and where. Information and communication technology affects every workplace and household in some way. This impact is expected to deepen creating dramatic changes in jobs and in lifestyles within the next ten to twenty years as the rate of technological advancements accelerate.[3]

What is the Outlook for the Workforce in South Carolina?

In South Carolina, employers are concerned that there may be a shortage of prepared workers in the future. All trends indicate that, in the future, new jobs will be filled by workers who have more and better education. A high school diploma will no longer be enough to secure employment. Estimates from the South Carolina Department of Education indicate that nearly a third (31%) of all South Carolinians have not completed high school. Statewide another 30% have a high school diploma or its equivalent, but have not furthered their education. In Lancaster and Chester counties the percentage of adults who have not completed high school is well above the state average (40.2% Chester/29.3% Lancaster).[4] Labor statistics indicate that 62% of the population is employed, those remaining are either unemployed (4%) or not in the labor force (35%).[5] Nearly half of those who are employed in South Carolina work in the service sector (26%) or as laborers (23%). In both Lancaster and Chester counties 26% of all workers are employed in the service sector. Laborers make up 37% of workforce in Chester County and 34% in Lancaster County.[6] Traditionally these were categories of workers that required fewer skills. This is changing. According to a report published by the South Carolina Chamber of Commerce, computer science is the fastest growing field in the state. Although the service sector will remain one of the fastest growing occupations in South Carolina, four of the fastest growing service sector jobs are in the health care industry (medical assistants, physical therapy assistants, home care aides and medical assistants). These jobs increasingly require workers who are computer and technology savvy.

Lancaster County and neighboring Chester County are not unlike other rural communities in South Carolina. Many of the small towns in both counties were established in or around the textile industry that was the major employer. Workers who operated machinery and ran the line in the mills often were not required to have a high school diploma or advanced skills. With the changing economy the mills have been forced to lay off workers. Changing technology has also changed the way the mills operate. Those workers who expected to go to work in the mill when they finished school will find that a high school diploma and often some college will be a minimal requirement. This presents a problem in Lancaster and Chester counties where clearly three fourths of the population has a high school diploma or less (Lancaster 73%/ Chester 76%)[7].

The United States Department of Labor estimates that 75% to 85% of the future workforce will involve additional education beyond high school. Although the top 20 jobs in South Carolina remain in the service industry, these jobs now require more sophisticated skills.

See Table 1. The fastest growing occupations in South Carolina all require advanced technical skills. Occupations that dropped from the Top 20 list of fastest

growing occupations include Computer Engineer, Human Services Worker, Child Care Worker, Legal Secretary, Dental Hygienist and Restaurant Cook. Most of these jobs were replaced with similar occupations, but there was a significant shift from occupations will "low tech" skills to those requiring "high tech" skills.[8]

In the Catawba Region-Chester, Lancaster, and York counties- it is projected that the demand for the current leading occupation, cashier, will diminish with the slowing of the economy. See Chart 1. This occupation is one of the few that does not require more advanced skills. At all levels employers are asking for employees who have mastered a broader set of skills. When asked what skill was most valued on the job, managers and employers statewide indicated that personal qualities like integrity and honesty were valued above all. These personal qualities were followed by interpersonal and thinking skills such as: team player, responsibility, knowing how to learn, and listening skills. Basic reading, math and writing skills also ranked highly among South Carolina employers. Changing employment trends have made South Carolina a state with opportunities that may attract new growth. In addition, as noted in Table 2 there is a significant unemployed labor force to employ. But locals will get the new jobs and become employed only if they are prepared and functionally literate.

Table 1. Top 20 Fastest Growing Jobs in South Carolina[9]

	2000	1998
Computer Scientists	1	—
Electronic Pagination Workers	2	—
Computer Support Specialists	3	—
Database Administrators	4	—
Systems Analysts	5	3
Paralegals	6	5
Physical Therapists	7	8
Home Care Aides	8	4
Medical Assistants	9	—
Physical Therapy Assistants	10	9
Respiratory Therapy Assistants	11	—
Data Process and Equipment Repairers	12	—
Home Health Aides	13	6
Special Education Teachers	14	17
Amusement Attendants	15	7
Manicurists	16	—
Bank Adjustment Clerks	17	—
Cardiology Technologists	18	—
Occupational Therapists	19	—
Sports Instructors and Coaches	20	—

Chart 1. Ten Top Jobs in the Catawba Region[10]

1. Cashiers
2. **Retail Salespersons**
3. **Marketing/Sales Supervisors**
4. **General Managers/Executives**
5. **Truck Drivers**
6. Nursing Aides
7. **Child Care Workers**
8. Assemblers/Fabricators
9. Food Preparation Workers
10. **Utility Maintenance Repairers**

**Bold Indicates new from 1998*

Table 2. Labor Force Status (as of November 2001)[11]

	Chester	Lancaster
% Employed	89.4	94.6
% Unemployed	10.5	5.4

What is Literacy?

The National Institute For Literacy defines literacy as "the ability to read, write, and speak English proficiently, to compute and solve problems, and to use technology in order to become a life-long learner and to be effective in the family, in the workplace and in the community."[12]

According to the National Literacy Survey (NALS) nearly half of the American population (approximately 90 million adults) were found not to be functionally literate. Today very few adults are truly illiterate in the sense that they cannot read or write anything. Rather, these adults have skills that are so low that they cannot find and keep a decent paying job, support their children's education, maintain their health, and participate actively in civic life. See Chart 2 for the difference proficiency levels measured by the National Adult Literacy Survey.

Chart 2. National Adult Literacy Survey[11] - Five Literacy Proficiency Levels

	Prose	Document	Quantitative
Level One	Most of the tasks in this level require the reader to read relatively short text to locate a single piece of information which is identical to or synonymous with the information given in the question or directive.	Tasks in this level tend to require the reader either to locate a piece of information based on a literal match or to enter information from personal knowledge onto a document.	Tasks in this level require readers to perform single, relatively simple arithmetic operations, such as addition.
Level Two	Some tasks in this level require readers to locate a single piece of information in the text; however, several distractors or plausible but incorrect pieces of information may be present, or low-level inferences may be required. Other tasks require the reader to integrate two or more pieces of information or to compare and contrast easily identifiable information based on a criterion provided in the question or directive.	Tasks in this level are more varied than those in Level 1. Some require the readers to match a single piece of information; however, several distractors may be present or the match may require low-level inferences.	Tasks in this level typically require readers to perform a single operation using numbers that are either stated in the task or easily located in the material.
Level Three	Tasks in this level tend to require readers to make literal or synonymous matches between the text and information given in the task, or to make matches that require low-level inferences. Other tasks ask readers to integrate information from dense or lengthy text that contains no organ-izational aids such as headings. Readers may also be asked to generate a response based on information that can be easily identified in the text. Distracting information is present, but is not located near the correct information.	Some tasks in this level require the reader to integrate multiple pieces of information from one or more documents. Others ask readers to cycle through rather complex tables or graphs which contain information that is irrelevant or inappropriate to the task.	In tasks in this level, two or more numbers are typically needed to solve the problem, and these must be found in the material. The operations needed can be determined from the arithmetic relation terms used in the question or directive.
Level Four	These tasks require readers to perform multiple-feature matches and to integrate or synthesize information from complex or lengthy passages. More complex inferences are needed to perform successfully.	Tasks in this level, like those at the previous levels, ask readers to perform multiple-feature matches, cycle through documents, and integrate information; however, the require a greater degree of inferencing.	These tasks tend to require readers to perform two or more sequential operations or a single operation in which the quantities are found in different types of displays, or the operations must be inferred from semantic information given or drawn from prior knowledge.
Level Five	Some tasks in this level require the reader to search for information in dense text which contains a number of plausible distractors. Others ask readers to make high-level inferences or use specialized background knowledge. Some tasks ask readers to contrast complex information.	Tasks in this level require the reader to search through complex displays that contain multiple distractors, to make high-level text-based inferences, and to use specialized knowledge.	These tasks require readers to perform multiple operations sequentially. They must disembed the features of the problem from the text or rely on background knowledge to determine the quantities or operations needed.

According to the National Institute for Literacy and the National Literacy Summit experts, there are four literacy skill sets that are needed by all adults. See Chart 3. These four categories of skills are used in combination in order to carry out effectively everyday activities as a parent, worker, citizen, health consumer and health provider.[14]

Chart 3. Basic Literacy Skills Needed by All People in America[15]

Communication Skills

- Read with understanding
- Convey ideas in writing
- Speak so others can understand
- Listen Actively
- Observe critically

Decision Making Skills

- Solve problems an make decisions
- Plan
- Use math to solve problems and communicate

Interpersonal Skills

- Cooperate with others
- Guide others
- Advocate and Influence
- Resolve conflict and negotiate

Lifelong Learning Skills

- Take responsibility for learning
- Learn through research
- Reflect and evaluate
- Use information and communications technology

These literacy skill sets are relevant to the American workforce in that they enable workers to not only to be more effective and productive workers today, but they also help them adapt and change to the demands of a rapidly changing workplace.

What is Workplace Literacy?

Improved workplace performance has been a goal of workplace literacy programs since worker education programs began in the eighteenth century. Providing workplace literacy instruction is thought to improve worker satisfaction and productivity. Employers say that they want workers who can engage in creative problem solving, critical thinking, relate well to customers and other employers and who can understand and manage increasingly complex tasks, machinery and equipment.

Workplace literacy is defined as the "written and spoken language, math, and thinking skills that workers and trainees use to perform specific job tasks." [16] A basic distinction exists between workplace basic skills and literacy and academic basic skills. "The most effective way of learning skills is 'in context': placing learning objectives within a real environment rather than insisting that students first learn in the abstract what they will be expected to apply."[17] Therefore the U.S. Department of Vocational and Adult Education suggests that workplace instruction and curriculums be designed around "active information-seeking and processing" using job-related basic skills in work-

related tasks (i.e. locating information in job manuals, manipulating information to solve job-related problems).[18] Workplace programs are usually, but not always, delivered in the workplace and they generally target workplace basic skills (e.g. the ability to read and apply documents, the ability to use numbers, learning English). Some employers may choose to incorporate technical and job-specific training within a broader training framework. In the past, both approaches have proven successful.

Beginning in January 1994, the National Institute for Literacy (NIFL) began a lengthy five-year process of defining literacy for the 21st Century around the roles each of us fulfills within a lifetime: as parents, health consumers, citizens and workers. Questions were directed at thousands of adult students on changes noticed in workplaces in their communities. They reported on jobs that are disappearing and new requirements that are likely to expand within a firm or across an industry. These stories presented a clear picture of the roles played by workers and were used to broadly map areas of responsibility and activity in adapting to changing workplaces and workforce demands. The Equipped for the Future (EFF) standards that ensued did not supplant SCANS, another commonly used set of standards for workplace education curriculum development, and other job analysis studies.[19] Instead, they outlined the skills and knowledge needed within the framework of lifelong learning; giving substance to and support for a seamless workforce development system.

The EFF standards were developed from Role Maps. The Role Maps outline exactly what adults do in carrying out adult responsibilities. Each Role Map included a "key purpose" or the central aim of the role; a "broad area of responsibility" or the critical functions that an adult performs in order to achieve the purpose and the "key activities" through which the role is performed. See Chart 4. Role indicators were added which describe successful performance of key activities. The EEF standards and the role maps are instructional standards that were developed to identify the specific knowledge and skills needed by adults to meet the challenges of a changing society. They are to serve as a starting point for building a workplace education program.

Chart 4. Worker Role Map[20]

Effective workers adapt to change and actively participate in meeting the demands of a changing workplace in a changing world.

Broad Areas of Responsibility

Do the Work: Workers use personal and organizational resources to perform their work and adapt to changing work demands.	**Work with Others:** Workers interact one-on-one and participate as members of a team to meet job requirements.	**Work Within the Big Picture:** Workers recognize that formal & informal expectations shape options in their work lives and often influence their level of success.	**Plan & Direct Personal and Professional Growth:** Workers prepare themselves for the changing demands of the economy through personal renewal.
	KEY	**ACTIVITIES**	
Organize, plan, & prioritize work.	Communicate with others inside & outside the organization.	Work within organizational norms.	Balance and support work, career, and personal needs.
Use technology, resources, & other work tools to put ideas and work directions into action.	Give assistance, motivation, and direction.	Respect organizational goals, performance, and structure to guide work activities.	Pursue work activities that provide personal satisfaction and meaning.
Respond to and meet new work challenges.	Seek and receive assistance, support, motivation and direction.	Balance individual roles and needs with those of the organization.	Plan, renew, and pursue personal and career goals.
Take responsibility for assuring work quality, safety, and results.	Value people different from yourself.	Guide individual and organizational priorities based on industry trends, labor laws/contracts, and competitive practices.	Learn new skills.

What is apparent from this Role Map is that today's employers demand more from their workers than basic reading, writing and math competencies. They want to employ individuals who are flexible, willing to learn technical skills and perform whatever functions are needed as the company grows and changes.

Who Needs Workplace Literacy and Basic Skills Development?

Any person who is having trouble performing effectively on the job or who is having trouble getting or keeping a job may need to increase basic skills and literacy functions. While there may be other reasons why there might be problems in performance on the job or getting and maintaining a job, literacy and basic skill enhancements are primary needs for most in such situations. While there really is no set of characteristics that can be applied to all learners, there are a set of literacy

and basic skills required for most job assignments in order to be functionally literate. Each work setting requires a unique set of basic skills and varying levels of skill proficiency.

Entry-level and semiskilled jobs require that workers function minimally at a second level of literacy. (See NALS Literacy Levels, Chart 2.) Adults at Level Two can read and do simple math computations. As long as information is easily identifiable, they can draw conclusions from written materials though seldom can they make inferences to other situations beyond what is presented. Findings by the 1992 National Adult Literacy Survey estimate that nearly half of all adults have skills in the lowest two levels of literacy. For Lancaster and Chester counties, the proportions are higher. 30% of all adults in Chester County and 24% of all adults in Lancaster County function at the Level One level or lowest level of proficiency. Another 36% of Lancaster County adults and 38% of adults in Chester County function at Level Two.[21] Both of these levels are considered functionally illiterate.

We expect that many illiterate adults are unemployed or marginally attached to the labor force, working part-time or at temporary jobs for short durations. Nationally unemployment rates for those at the lowest literacy level are four to seven times higher than adults in the highest skill category.[22] At the very least, between 30-45 percent of present day workers in the Lancaster-Chester county area are functionally illiterate. Their low education and skills relegates them to routine and largely manual jobs. They earn a third less than the wages of workers with moderate literacy skills and less than half of the wages of those with high literacy skills. If they are the sole provider for their families, it is doubtful that their earnings are sufficient to meet basic needs or raise them above the poverty threshold.[23]

Older workers may not have needed a high school diploma or any technical skills for the jobs they were hired to fill ten to fifteen years ago. But, jobs in the knowledge economy require some college or post-secondary education. The skills required for today's demand jobs in offices and health-care settings are at or above Level 3 literacy. In the U.S., office jobs are the fastest growing sector making up "41 percent of the nation's 133 million jobs in 1997Öby 2006, the number of U.S. office jobs are projected to grow by another 4.4 million."[24] Displaced workers in the older farm, factory, and service sectors are up against keen competition for similar employment because job openings in these sectors have either been declining or remained constant. As a result of supply-side economics and other market dynamics (e.g. firms slow to transform, and rising immigrant and contingent labor), job-seekers must upgrade their education and training or they can expect to earn less for work involving longer shifts with fewer or no benefits.

Younger workers seeking first-time jobs are experiencing greater difficulties securing permanent jobs in their careers than workers with long histories of employment. This is true for those with post-secondary degrees and whose technical know-how is more proficient. Perhaps employers place higher demands on young

recruits because they want to hire persons capable of working in the high-performance workplace that they envision; they are looking for entry-level workers to fill the void in 21st Century literacy skills of their current workforce. Employers admit they are hesitant to invest in costly training programs when frequently it results in workers leaving for better salaries with companies that may be their competitors.

A national study followed two groups of young workers overtime: the original sample entered the labor force from 1966 to 1981, and the second group from 1979 to 1994. It was discovered that the "odds of a job change are 34 percent higher for youth in the recent cohort as compared to the original cohort." This held true even when adjustments were made for labor market factors and characteristics of the youth in terms of age, education and work experience.[25]

Another more troubling concern is that younger adults from ages 21 to 25 have lower literacy skills than the same cohort group from an earlier decade. Young adults included in the last National Adult Literacy Survey scored lower in reading, document literacy, and math skills than those surveyed ten years before.[26] Some researchers attribute the decline to the influx of non-English speaking immigrants; however, the same findings were found to be the case among young women on public assistance, which excludes immigrants.

Scores on the Palmetto Achievement Challenge Test (PACT) further document the academic achievement of South Carolina school children. By grade 8 only 10.3% of all children in Chester County and 16.2 % in Lancaster County were proficient in reading and language arts. 41.5% of the children in Lancaster County and 50% of all eighth graders in Chester County scored below the state average. PACT scores in Math were also below average (42% in Lancaster County and 58.5% in Chester County). [27]

Right now in Lancaster and Chester counties the number of younger adults in literacy programs has dramatically increased. This is directly connected to th e extremely high drop out rate in both counties. Lancaster County's drop out rate stands at 29.3% while Chester County's is 40.2% according to the 2001

Kids Count report. In both counties adult education and literacy programs are quickly becoming an alternative school program for high school dropouts. These students are as one person put it "buying time" until they can finish school and get a job.

Why is Workplace Literacy Important?

Simply stated workplace literacy is important because all workforce projections indicate that now and in the future there will continue to be a need for more highly skilled workers. Employers are not confident that our current high school graduates have the skills that are most needed to adapt to a workplace where the individual worker must assert greater responsibility. No longer will workers be

rewarded for merely showing up on the job and doing what they are told. Employers now recognize the fact that one of the principle threats to their future productivity and success is the education and training of their workers. Poor literacy skills have an economic cost. Poor literacy costs the companies that hire the workers, the workers themselves, and ultimately they cost our nation.

The Cost to Companies. According to a report from National Business Alliance, low levels of literacy and inadequate basic skills represent "a hidden cost, the drag on productivity and competitiveness."[28] By 1991 it was clear to many employers that this drag was in large part due to basic skills problems. Three out of four companies surveyed by the National Association of Manufacturers reported that they had experienced difficulties in upgrading technology, improving productivity, reorganizing workplace practices and increasing employee involvement. These problems were directly linked to low literacy levels. Later analysis revealed found a positive correlation between a firm's ability to implement a change strategy and the basic skills of its workforce.[29]

The Cost to Individuals. Literacy affects the lives of many individuals in our workforce. Although we may think that only certain groups are regarded as "functionally illiterate" (e.g. dropouts, the unemployed, those on public assistance), among those who scored at the lowest literacy level, nearly 25% had finished high school, approximately 30% had full-time jobs, 9% had part-time jobs, and 5% had managerial, technical, or professional jobs.[30] The earnings of workers at the lowest literacy levels average between $230 and $240 per week in 1996. The earnings of individuals at the highest literacy levels were three times greater during this time period. The consequences of low levels of literacy very often are: limited employment opportunities, lower earnings and an increased dependence on public resources.

The Cost to the Nation. Illiteracy and inadequate basic skills cost the American economy an estimated $225 billion dollars annually.[31] The loss in the workplace is due to lost productivity, accidents and mistakes and the cost of remedial education for employers. However, the biggest loss comes from the loss in potential buying power. Almost 20% of the Americans scored at the lowest literacy levels. Full-time workers at the highest levels earn more than twice that of those who are at the lowest levels. The earnings of individuals, hence their spending power, are diminished.

Poverty and reliance upon public assistance are also influenced by literacy. Between 40 and 45% of people at the lowest literacy level live in poverty and thus have a greater need for public assistance.[32]

Warren's Story

"Warren was an African American male in his early thirties when he first began working on his reading and math skills. Warren had dropped out of school as soon as he could at age 16 "to avoid the gangs" and had been employed for nearly five years at a fast food restaurant. His employer was impressed with his sense of "work ethic" and responsibility and stated many times "Warren is the best employee that I've got." When Warren found out that his wife was expecting their first child he wanted to improve his skills and "finally learn how to read and write." The first night of instruction his wife had to help him read and fill out the registration form. Warren approached learning the same way he approached his job. He studied constantly, even taking vocabulary "flash cards" with him to study on his breaks at work. After only a few months Warren received a promotion. He entered a GED program with the full support of his employer.

Workplace basic skills are the core skills that employees need to do their jobs. Chart 5 indicates the basic skills that are used in the workplace. They are the skills that are critical to success in both businesses and industries that are competing at a global level. They are also important in the public sector. Hospitals, schools, and all sectors of government rely heavily on information technology. A highly educated and technically qualified workforce becomes essential in fueling our nation's economic growth and securing prosperity for every American worker. The U.S. ranked sixth among the seven countries included in the 1995 International Adult Literacy Survey.[34] The IALS found that labor force skill and economic growth are strongly connected. The study suggests that small increases in productivity leads to increased public revenue and a decrease in the costs of unemployment. Therefore, improvements in workers skill levels (even if they only increase by a small amount) should have a large impact on the nation's economy. Increasing workplace literacy skills is a win-win situation. The employer wins because they maintain high-skilled workers. Chart 6 indicates the skills that employers want. Their payoff comes in the form of increased productivity. The workers win because research has shown that a person's literacy skills almost always will determine his or her success in the labor market. "Workers with high levels of skills and a strong educational foundation are able to leverage their abilities into economic value".[35]

Chart 6. The Skills Employers Want[36]

1. Foundation Skills "Learning how to Learn"
2. Competencies: Reading, Writing, and Computation
3. Communications: Listening and Oral Communication
4. Adaptability: Creative Thinking and Problem Solving
5. Personal Management: Self-Esteem, Motivation, Goal-Setting, Employability and Career Development
6. Group Effectiveness: Interpersonal Skills, Negotiation, Teamwork
7. Influence: Organizational Effectiveness and Leadership

Chart 5. How Basic Skills Are Used in the Workplace[33]

Language is used at work in

- Group situations to solve work problems with each persons contributing some part of the information needed
- Connection with physical tools and equipment (telephones, computers, calculators, and occupation specific equipment)
- Problem solving that takes into account practical considerations and the physical environment
- Communication with customers

Workers use language for various reasons. They use language to

- Ask questions, check understanding, anchor key ideas in memory, and use information to plan and solve problems
- Build a conceptual understanding of the work environment; to know reasons for job tasks; and to contribute to informal and formal problem-solving, planning, and research

Reading is used for work

- In training to learn information for future use
- Especially by new workers (most heavy job-related reading is performed by new workers who lack the background knowledge of experienced workers)
- Repetitively to do job tasks
- Frequently to check technical references
- Other to understand technical information
- To check pictures and diagrams
- To cross-check information related to a job task
- To find relevant information
- To communicate with the next shift
- In trouble-shooting (by technicians who often use diagrams to locate the source of a problem)
- To interpret symbols, abbreviations, and numbers in non-text formats
- To get information from production schedules, inventory sheets, payroll ledgers, and tables
- To fill in "down" time or breaks (reading newspapers and other literature)

(continued)

Workers use reading skills for

- Understanding text containing complex grammar and jargon
- Understanding informally written notes and memos that contain key information
- Repeated reading, so that difficult material becomes familiar and routine
- Acquiring an information base for future actions and evaluations
- Sorting and prioritizing material
- Looking for information
- Understanding rights and benefits

Writing is used at work

- To fill out forms
- To communicate informally
- To edit as required for specific occupations
- To market an promote goods and services
- To perform specific tasks (ex: marking products, composing blueprints)
- To label information (using titles, abbreviations, symbols, etc)
- To make notes for co-workers (and self reminders)
- To record duties performed
- To prepare signs
- To prepare instructional manuals and materials
- To modify standard forms and charts or to make information more accessible

Math is used at work

- In reading numbers on documents
- In combination with reading and writing, in tasks to complete and understand forms that involve counting and arithmetic (inventory sheets, quality control documents)
- To understand relationships, logic, measurements, and orders of magnitude, standard deviations, and control charts
- In a way that connects practical uses, intuition, and concepts relating to geometry and measurement, statistics and probability, patterns and functions, logic and numerical analysis
- To understand graphs and charts
- To understand pay stubs
- To understand scheduling and pay rates (using a time clock, overtime, vacation time, and sick leave)

What Do Workplace Literacy Programs Look Like?

Key Workplace Literacy Components

To develop a successful workplace literacy initiative it is important to keep in mind that as in most adult education programs the adults "vote with their feet." Enrollment in workplace programs is usually voluntary and open-entry, open-exit. High retention rates are one indicator of quality. Some key elements for a successful workplace literacy initiative are found in Chart 7 Principles of Effective Workplace Literacy Practice.

Chart 7. Principles of Effective Workplace Literacy Practice[37]

- Models active and ongoing involvement by all project partners

  Education, business, labor unions and other interested parties are supportive and actively involved in the workplace initiative. These partners typically provide classroom space, help monitor project services and provide financial support for project services. Involvement of both upper management and on-line supervisors is critical.

- Employees are actively involved in all aspects of programming on an ongoing basis

  Employees are involved in the project in numerous ways, including project planning, literacy task analyses, needs assessments and advisory panels.

- There is systematic analysis of on-the-job literacy requirements

  Some sort of analysis of job-based literacy skill requirements, either formal or informal, is done at the onset of the program. Information from work requirements is utilized to inform the design of the instructional services.

- Instructional materials are developed related to the specific literacy skills required on the job

  Instructional materials are related to each jobs literacy requirements. Materials can include corporate manuals, instructions for operating equipment and machinery, or forms, reports and other documents frequently used by employees. The core of workplace literacy is the knowledge requirements for the specific job area. It is basic skills instruction that uses the language, tasks and knowledge of the workplace.

- Literacy skills in the workplace are developed in relation to specific content and set in specific kinds of language forms (e.g.memos, worker manuals, order forms).

Workplace literacy programs come in a variety of forms from those that involve a single employer to those that involve many organizations in a network that might include private and public sector employers, adult educators, the local and national Department of Education and other federal, state, and local government agencies. Programs are often classified as basic, modified or customized programs. Chart 8 provided by the U.S. Department of Education, illustrates these three workplace program options.[38]

Level 1, Basic programs are designed for companies or organizations that require workers who possess general workplace skills. The curriculum does not emphasize skills needed for specific jobs needed in the workplace. Level 2, Modified programs also emphasize general workplace skills, but customized modules are designed that focus on specific job-related skills. There is a stronger focus on the literacy skills (e.g. reading directions, basic math and communication/listening skills) that are needed in the company or organization. Level 3, Customized programs fully integrate literacy and basic skills into the workplace program. A literacy task analysis is used to determine what skills are needed and a specific program is designed for specific job tasks and roles.

Chart 8 Workplace Skills Program Options[39]

Program Description	Curriculum	Literacy Job Analysis	Literacy Needs	Company Incentives	Anticipated Participants	Recommendations
Level 1- Basic Program	General workplace skills	None	Minimal- literacy needs related to employment and benefit forms rather than performance of work	Generally a voluntary program with recognition of employee accomplishments through certificates and receptions	Self-motivated individuals who are looking for job advancement, GED, or personal improvement. Those who will attend classes after work hours	This type of program is recommended for small companies with few literacy needs who would like to: 1) provide education as an employee benefit. 2) prepare for anticipated change in management style or technology
Level 2- Modified Program	General workplace program with some customized modules	Abbreviated task analysis (review of materials, interviews with employers and management)	Some literacy needs (e.g. team work, reading of directions, basic math, communications)	Strong company support that includes some incentives (e.g. promotional materials, certificates, and banquets)	Self-motivated employees and those who respond to management and peer support and encouragement	Recommended for small-medium sized companies who: 1) have identified skill gaps, 2) predict expanded literacy needs, 3)wish to phase in a larger program
Level 3- Customized Program	Customized workplace skills program for specific workplace needs.	Literacy task analysis is completed to identify curriculum needs.	Specific literacy needs correlated to site performance goals.	Full company support. Incentives include work release time, shared work release, employee time paid for after work classes, cash bonuses for skill level change or class completion, job promotion	Wider range of participants from the self-motivated to those with very low skills and educational barriers who are required to attend	Recommended for high performance companies that would like to incorporate permanent skills programs into the workplace

The following section provides ideas of what has worked both in South Carolina and nationally.

Basic Workplace Programs

Basic workplace programs are generally in-house programs. When employers recognize that several employees may benefit from some type of educational program, they hire a "teacher" for the benefit of these employees only. Usually the teacher or tutor is part-time and comes in to serve employees who voluntarily come before or after their shift of work begins.

Springs Industries, Inc. In 1991 Springs Industries, Inc. initiated a basic workplace program when they began a $500 million plant, property, and equipment investment. Recognizing that the upgraded facility would require higher skilled employees, Springs implemented a literacy program. Springs has partnered with the Lancaster County Literacy Council, York Technical College and the Lancaster County Vocational College to provide instruction. Basic skill courses in reading, writing, and math are offered on-site to employees before and after shifts on a voluntary basis with open enrollment and open exit.

For more information contact:
Annette Dees
Lancaster County Literacy Council
302 W. Dunlap St.
Lancaster, SC 29720
(803) 285-2554

According to Joan Mason, Director of the South Carolina Workplace Resource Center, today employers in business and industry have such specific needs that in most cases they have moved away from offering basic workplace programs. Most employers want the more customized programs that are available through the modified and customized workplace models.

Modified Workplace Programs

Modified programs offer a combination of general workplace and literacy skills and customized learning modules.

The Midlands Literacy Initiative. The Midlands Literacy Initiative (MLI) has worked with a number of businesses and industries in South Carolina. MLI staff along with staff from the South Carolina Literacy Resource Center developed a

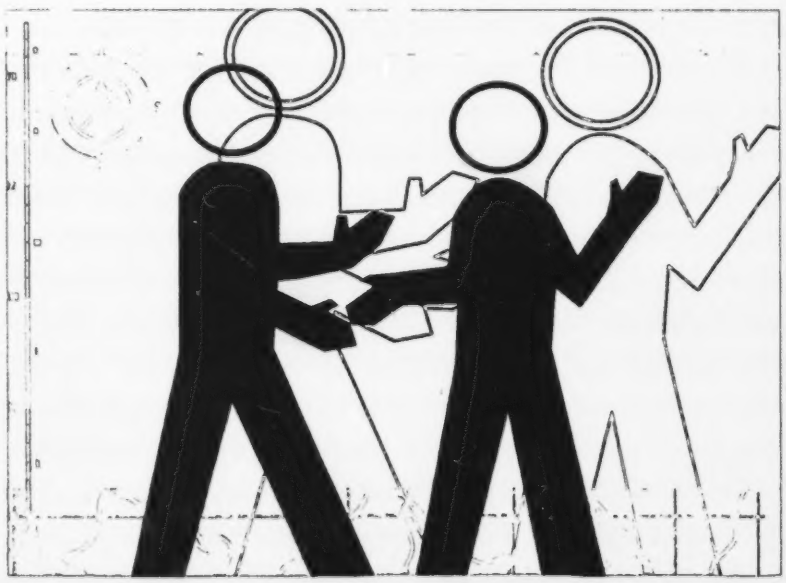
generic workplace curriculum that is in use in a number of Midland's businesses and industries. The generic curriculum focuses on workplace skills that are generic to most organizations. The curriculum can be enhanced with industry specific skills. The curriculum is specifically designed to enhance the opportunities of adults whose job opportunities were often very limited and to meet the need of industry for skilled workers. For a summary of the workplace curriculum link to MLI on the United Way of the Midlands website www.uway.org.

The Midlands Literacy Initiative (MLI) is a business-driven, community initiative that is funded by the United Way of the Midlands. Founded in 1994, the mission of MLI is to promote systemic reform in the life-long learning system so that adults gain the skills they need to be successful and self-sufficient at work, at home and in the community. The Midlands Literacy Initiative's success rests by and large on the working relationships that have been established with business and industry, education and public agencies. The focus of these relationships has been primarily in the development of a basic work skills curriculum for under-educated adults. Programs are custom designed to each employers specifications. Therefore the format, delivery system, and timeline of the program will vary according to employers needs. Based on sound research, the MLI curriculum and classroom instruction model those skills that employers feel are most necessary.

Allied Signal, Louis Rich, Inc., Mack Truck, and Family Dollar are among the many businesses that have been served through the initiative and as a result, MLI has improved the basic and work skills of over 600 adults in the Midlands community.

For more information contact:
Kathy Olson, Director
5412-5412-5412 Fax: 803-779-7803
E-mail: kolson@uway.org
www.uway.org

Great Oaks Workplace Literacy Program. The Great Oaks Workplace Literacy Program is located in the Greater Cincinnati area and is another example of a modified workplace model. This program is a nationally recognized program and was the recipient of the Secretary's Award in 1996 from the U.S. Department of Education. The Great Oaks program provides 55 hours of instruction at 12 work sites. All classes are



funded by the businesses in which they are located. Current offerings include basic skills: reading, math, GED test preparation, communication skills, personal finance, blueprint reading, and English as a Second Language. One of the special features of the program is that it is based on the five key components of the Ohio statewide plan. These components are: development of stakeholder support, assessment of workplace skills, workplace program design, program implementation, and evaluation. Employers are asked to consider the purpose of their planned workplace literacy program, why they are choosing to provide the work site training and where they hope it will lead the employees and the company. Workplace instructors then clearly understand each program's objectives and translate the company's goals and objectives into the employee's learning experiences. For other case studies see:

www.workplacebasicskills.com

For more information contact:
Great Oaks Workplace Literacy Program
Great Oaks Institute of Technology and Career Development
3254 E. Kemper Road
Cincinnati, Ohio 45241
Contact Person: Arthur P. Ftacnik (513) 771-8925

British Petroleum/Amoco and Oconee County Adult Education. Since 1990 British Petroleum/Amoco has partnered with Oconee County Adult Education to provide basic skills and workplace instruction. Currently they are using WorkKeys to assess the skills of all employees and provide instruction to fill the skills gap. There are two certified teachers who work on site. They have designed remedial courses in basic reading and math as well as GED preparation and computer training. The curriculum also includes specific workplace topics (eg. Sexual harassment, communications in the workplace).

For more information contact:
Charles Kennedy, director
Oconee County Adult Education
615 N. Townville St.
Seneca, SC 29678
(864) 885-5014

Customized Workplace Programs

Customized workplace programs are full-scale educational programs that are aimed at retooling and revitalizing the entire workforce. They require full company commitment and an incentive package that supports optimum participation.

Milliken and Company (www.milliken.com) is one of the world's largest privately held companies and a leader in education. The company is known as an innovative leader and has received international recognition including the coveted Malcolm Baldridge National Quality Award. In 2000 Milliken's educational arm, Milliken University was recognized as the Corporate University of the Year. The Milliken University's guiding principle is "there is no saturation in education." Milliken associates each must complete 40 hours of training per year.

As a part of its educational offerings Milliken offers ongoing, voluntary skills enhancement programs at the continuing education centers housed at the main manufacturing facility in Spartanburg, South Carolina and at a satellite facility in Union, South Carolina. These continuing education centers offer programs for employees at every level, using computer-assisted technology. Certified teachers guide associates through courses designed to strengthen employees reading, writing, math, and critical thinking skills. GED preparation courses are offered as well.

Georgetown Steel Corporation (http://www.gscrods.com) has partnered with Horry-Georgetown Technical College since 1991 to offer Project LEAP (Literacy Education: Achieving Productivity). The project, now known as New Horizons, was funded in 1991 by the U.S. Department of Education. The mission was: to provide on-site instruction to meet the identified workplace skill needs of the employees that included: reading, writing, math, communications skills, problem-solving, decision-making, and time management. The training is available to any employee and is part of Georgetown Steel's commitment to continuous improvement. Georgetown Steel believes that: 1) Every employee has the ability to solve problems, 2) Innovation requires the contribution and growth of all employees, 3) Team building gives everyone a stake in quality. Georgetown Steel's commitment to team building is illustrated by the fact that they have underwritten the cost to have all employees participate in a one week Adventure experience at Limestone College in Gaffney, SC. The employees are supported further through appropriate personal development activities, counseling, and support services. Instruction takes place during work hours, employees are allowed release time for instruction and they are paid their regular wages. Classes are scheduled to accommodate all shifts.

For more information on this program contact:
Dr. Henry Nodes
Director of Management Systems
Georgetown Steel Corporation
Georgetown, SC
(843) 546-2525 ext. 113
DrHNodes@gscrods.com.

Challenges to Developing Workplace Programs

What Government and Service Providers Might Do

There are challenges to developing a workplace literacy program statewide and in Lancaster and Chester counties. These challenges are reviewed below.

Nationwide adult literacy and basic skills programs confront a similar set of problems. Delivery of quality literacy and basic skills programs is hampered by a system that is fragmented and often ineffective in reaching the numbers of individuals who qualify for services. Funding for programs is sparsely dispersed to dozens of agencies and institutions. With the passage of the Workforce Investment Act (WIA) new guidelines were put into effect that are designed to eliminate some of the duplication and fragmentation through the development of one-stop career centers.[40]

Many traditional adult educators affiliated with the Department of Education literacy and basic skills programs feel that they are caught in the middle of all the changes. They are no longer being asked to teach a broad-based generic set of reading, writing and math skills. They must become familiar with the workplace. They must understand how the skills they teach will be utilized in the workplace and teach accordingly. This is sometime difficult for teachers who have not received formal training in adult education or training.

Adult educators must also become more vocal advocates. Although many adult educators may have previously worked closely with human service agencies as well as business and industry, they find that now if they want to participate at all in any policy discussions at the state and local level they must be partners. They must justify the need for more quality workplace literacy programs. To do so adult educators must better articulate how vital literacy is to the workplace and how improved literacy will enhance the overall productivity of the workforce and the community. A study done by state and regional planners created a list of recommendations of what needs to be done at various levels to eliminate fragmentation and to create a more cohesive adult education and literacy system.[41] Hopefully, if these recommended steps are taken it will ease the stress that comes with change.[42]

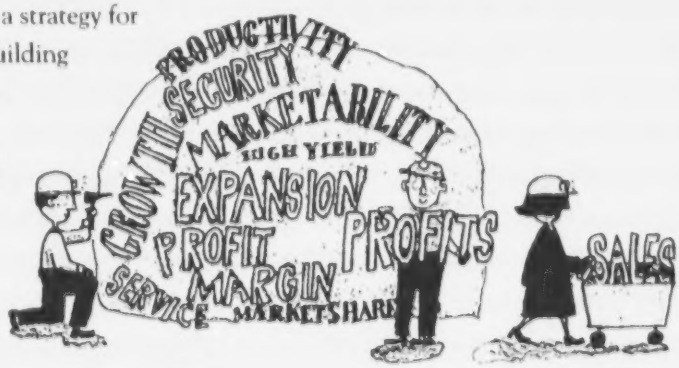
What the government might do

- Provide technical assistance to service providers to design customized workplace programs
- Provide technical assistance to business and industry to assess literacy requirements of jobs
- Include technology in instruction including computers and video
- Provide funds for research and innovative projects
- Provide funds for service provider training
- Provide funds for community-based literacy program operations
- Provide funds for volunteer-based literacy program operations
- Increase the number of full-time literacy professionals
- Provide equalized reimbursement rates for adult basic education programs and other courses
- Provide incentives to business and industry to contract with local service providers for assessment and instruction
- Establish accountability measures
- Establish federal and state legislated mechanisms to facilitate workplace literacy partnerships at the state or local levels

What service providers might do

- Involve business and industry leaders in development of effective workplace literacy programs
- Customize programs to meet the needs of specific industries
- Offer English as a Second Language vocational programs
- Provide workplace literacy services for employees of small businesses
- Integrate basic skills and technical skills training in adult vocational education
- Integrate basic skills training into job training independent of GED-track instruction.

In this state several of the above recommendations have been accounted for under the South Carolina State Plan: Adult and Family Literacy in connection to the Workforce Investment Act of 1998 (Individual State Plans can be accessed through a web site established through the U.S. Department of Labor. See http://usworkforce.org). The State Plan includes a strategy for improving existing workplace literacy programs and building new programs. Under the plan the Governor Hodges designated the South Carolina Employment and Security Commission as the administrative agency for Title I-B (adult, youth and dislocated worker programs) of the Workforce Investment Act.



At the local level, South Carolina has designated 12 Workforce Investment Areas (WIA). Lancaster and Chester County, along with York County, are located in the Catawba WIA. Each WIA is charged to develop a one-stop delivery system with satellite locations in various counties. The one-stop system attempts to merge traditional employment and training services. Supervised by both state and local communities, one-stop centers provide a consolidated program that enables easy customer access to services. Under the one-stop system key programs, resources, and services such as unemployment insurance, state job services, public assistance, training programs and career services are housed in one central location.[43]

There are several local one-stop career centers that can serve as models.

The Trident One-Stop Career Center (http://www.toscc.org) was established in 1998. Trident Center serves the Greater Charleston community. Satellite centers are now operating in Berkeley and Dorchester counties. The mission of The Trident One-Stop Career Center is to provide "quick, quality, and convenient workforce development services to employers and job seekers."[44] The center offers a vast array of employment and training services to unemployed adults and youth (e.g. career counseling, GED preparation and High School Diploma programs, professional resume preparation, and assessment testing). A variety of services are also offered to employers. These services include: applicant screening for interviews, Work Keys profiling, customized training and curriculum development, and basic skills training for employees.

Onestop: The Upstate Workplace Center in Spartanburg, SC is another local one-stop center (http://www.spt.tec.sc.us). This center offers services to employers, adults, and youth. There are programs that address the needs of a range of job seekers including the unemployed, the underemployed, displaced homemakers, welfare recipients, and dislocated workers. With satellite offices in Gaffney and Union, South Carolina, One-stop has a number of resources (e.g. career reference library, computers, resume programs, and electronic access to partner agencies) that are beneficial to individuals who are seeking employment.

Acquiring the basic and functional skills required for today and the future is a shared responsibility. To date public and private literacy providers are not collaborating with each other in effective ways. Improving literacy outcomes is not a concern that our education system can address alone.

Nor can workplaces be expected to bear a large share of the burden of investing in the continuous education and training of their employees. The cost of equipping our U.S. workforce has risen sharply to an estimated $815 billion a year. This represents a major sector of the U.S. economy, second only to health-care expenditures. One reason for the escalating costs is that the 21st century workforce, that employers will depend on to fill the jobs of the future, is in fact already employed. This means that four out of five persons who are currently working must find ways to acquire additional skills while on the job or from sources that will allow

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them to remain connected to the workforce.[45] Acquiring the knowledge and information demanded of high skilled, technology-driven jobs will require workers to reinvent themselves every two to three years in order to remain proficient in their present jobs, that is assuming that technology doesn't render their work obsolete. According to the directories provided by the Chambers of Commerce in Lancaster and Chester counties, there are 70 local businesses and industries. A more comprehensive listing is available through the S.C. Department of Commerce. They indicate there are 1108 businesses and industries in Lancaster County and 590 in Chester County.[46] Only one industry has indicated that it offers an on-site workplace literacy program.

Partnerships between schools, universities, industries and communities are being formed to build *systems* of workplace literacy and basic skills development that are sensitive to changes in labor markets nationally and internationally. The task of building skills to accommodate successive waves of technological advances is too complex for any single institution to undertake. Therefore, responsibility for creating learning-environments must be shared by every individual and institution within a community.

Better and Enhanced Training and Staff Development Is Needed

One of the challenges of creating a consistent workplace delivery system is the serious lack of training and professional development opportunities that are available for service providers. One authority states, "Few adult education programs have staff with experiences outside the realm of general literacy instruction, English as a Second Language, and GED instruction . . . they lacked the resources to develop and implement appropriate programs and lacked sufficiently trained instructors to accommodate work force needs."[47] The State of South Carolina Department of Education now requires that all instructors who teach classes in the workplace attend and successfully complete the workplace certification training course. The course is provided by the Workplace Resource Center (http://www.scwrc.org).

The Workplace Resource Center was established in 1998 to assist adult educators throughout the state in the delivery of quality workplace programs. For more information about workforce teacher certification contact:

Joan Mason, Director
South Carolina Workplace Resource Center
400-A Church St.
Laurens, SC 29360
(864) 984-1928

Building a cohesive process for training professional development complements the states efforts to build a seamless system of delivery and support. Chart 9 identifies some of the frequency mentioned benefits of training.

Chart 9. Benefits and Outcomes of Training[48]

There are a number of benefits as a result of training and staff development activities for workplace literacy providers. They include:

1. Consistent and ongoing access of up-to-date work force training approaches is available to providers.
2. An efficient mechanism is in place to identify and share common approaches. This allows for the creation of a common data base for the many varied aspects of work force program development and implementation.
3. The content of training has proven effective in minimizing duplication, "reinventing the wheel," and expediting instructor access to much needed information.
4. Training has assisted programs in decisions about pursuing workforce education.
5. Following strong staff development program participants have efficiently designed theoretical framework, focused practical examples, and application opportunities that directly link to each staff development activity.

Workplace Education Will Not Be Enough

Although adults frequently enroll in literacy and basic skills education for job-related reasons, adult education programs have always had broader goals. Adult learners when surveyed clearly saw the role of education as much broader than merely preparation for work.[49] Even among those who value workplace education there is some belief that the emphasis that is being placed on getting people into employment will not result in self-sufficiency. Those who oppose the new policies argue that these "low-road" strategies merely expand the low-wage labor supply without attention to raising living standards through increasing opportunities for learning skills that are needed to find work, sustain employment and increase wage earning potential.[50]

The challenges for creating a system that meets the needs of the workplace as reviewed above mirror the challenges that were outlined in the report of the National Literacy Summit 2000 steering committee. See Chart 10 for a summary of these challenges. As a part of its process the steering committee developed an "action agenda" built around three priorities. These priorities are as follows.

1. **Resources** Invest in new and existing resources—money, time, and services to create access to high quality adult education, language, literacy, and related services.
2. **Access** Provide all adults with maximum access to a well-defined system of adult education, language, and literacy services.
3. **Quality** Create a system of high quality education and support services that helps adults meet their goals as parents, workers, and community members. [51]

Chart 10. Challenges to Creating a High Quality Adult Literacy System[52]

CHALLENGE 1: As a result of higher standards in K-12 education and the phasing out of remedial courses at institutions of higher education, the number of youth seeking – and being pointed toward – adult education services will increase. This is likely to put more pressure on an already strained system.

CHALLENGE 2: The changing demographic makeup of the United States is increasing the number of people who need adult education and literacy services. Access to services is a critical issue, in terms of both the growing need and the varying concerns of different populations.

CHALLENGE 3: Adults need more opportunities to gain the skills and knowledge needed to meet changing job demands and to succeed in the workforce.

CHALLENGE 4: Learning disabilities (LD) are increasingly recognized as a major factor in the low literacy of adults, but too little is known – even among practitioners – about the nature and scope of the problem, the ways it affects adult learning, and how it should be addressed. Moreover, too few adults with LD are being identified and receiving appropriate instruction and accommodations.

CHALLENGE 5: New technology is profoundly changing the way we live, work, and learn. This technology both requires and facilitates lifelong learning. But the adult education and literacy field has not yet taken full advantage of the potential technology has for transforming adult learning.

CHALLENGE 6: Public support for improving education for our nation's youth is increasing, but we lack that same support for improving adult education and literacy programs. We need to create a better understanding of the importance of adult education and literacy to the nation's (and Lancaster and Chester counties) well-being.

CHALLENGE 7: Providing high quality, consistent services to adult learners is limited by a variety of critical programmatic factors. Among the most pressing are: a lack of consensus on goals, serious limitations of staff time and professional development opportunities, lack of research and information on best practices, mismatches between program structure and learners' needs, and the lack of active attention to adult learners as whole people.

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These challenges are exacerbated by the fact that not all employers are convinced that meeting the literacy of their employees is their responsibility. Most employers would rather hire employees that can come to the job with all of the necessary skills. In recent years low unemployment has forced some employers to consider offering basic skills and literacy programs in order to bolster the pool of available workers with the recent recession that motivation may be gone. Technological changes and the increased level of skill that technology requires has also encouraged employers to make new learning opportunities available to workers. In a world driven by the "bottom-line," employers now realize that it is better to keep employees for a longer time rather than having to continually hire and train new workers. Employers who have invested in training employees have seen a return on their investment. See Table 3 for some of the benefits employers have noted.

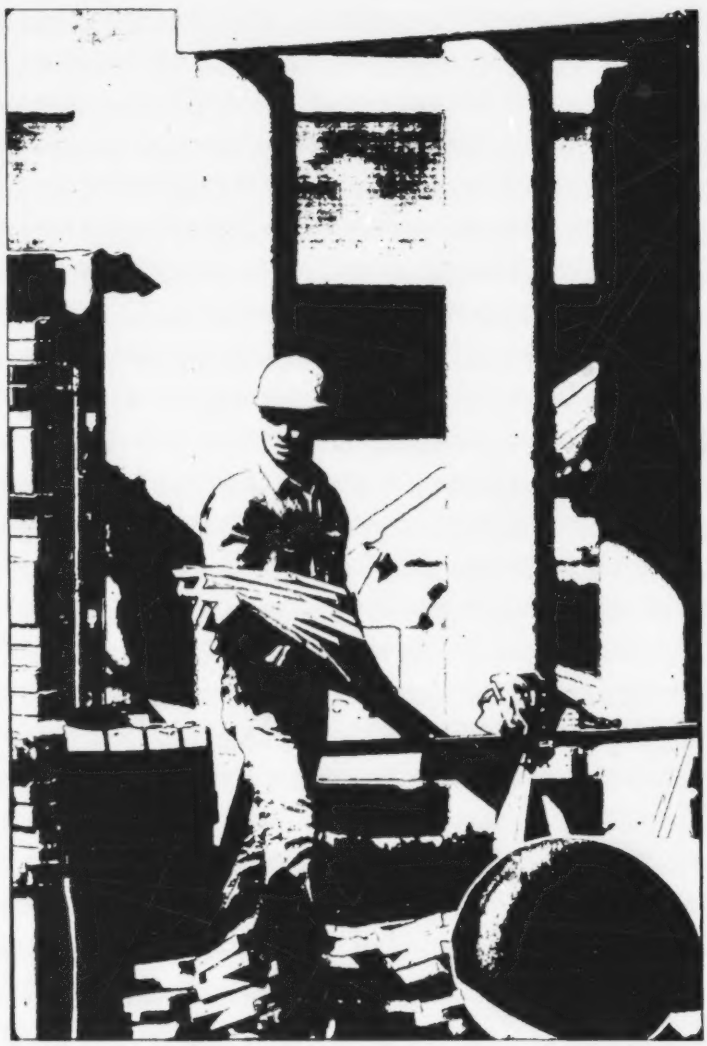

Table 3. Economic Benefits for Employers by Skill Category[53]

Basic Skills	% Employers Identifying
1. Improved capacity to solve problems	82%
2. Improved capacity to cope with change in the workplace	75%
3. Improved capacity to use new technology in the workplace	73%
4. Increased capacity to handle on- the-job training	67%
Job Specific Skills	
1. More employees participating in job-specific training	73%
2. Improved results in job-specific training	56%
3. Quicker results in job-specific training	55%
New Attitudes	
1. Improved employee morale/self esteem	87%
2. Better team performance	82%
3. Improved capacity to cope with change in the workplace	75%
4. Improved labor-management relations	65%
5. Reduced absenteeism	33%
Working with Others	
1. Better team performance	82%
2. Improved effectiveness of supervisors	69%
Ability to Work Smarter & Better	
1. Increased quality of work	82%
2. Increased output of products and services	65%
3. Reduced time per task	56%
4. Better health and safety record	51%
6. Reduced wastage in production of products and services	49%
Improved Human Capital	
1. Higher success rate in promoting employees within the organization	71%
2. Higher success rate in transferring employees within the organization	60%
Bottom-Line Benefits	
1. Increased profitability	56%
2. Better health and safety record	51%
3. Increased customer retention	42%
4. Increased retention of employees	40%

How to Develop a Workplace Program

Guidelines for developing a workplace literacy program have been developed by the Institute for the Study of Adult Literacy at The Pennsylvania State University. See Chart 11 for an overview and see their site for more details. (http://www.ed.psu.edu/isal)

There are five basic steps in the development process:

Step One. The planners create community awareness. The program planning team is generally made up of representatives from management, employees, and the educational consultant or local education provider. The goal is to create awareness and understanding in the community in order to gain community support for workplace literacy programs.

Step Two. Develop readiness within the willing business. The goal is to build the understanding of the workplace literacy needs among those within the workplace and to communicate the businesses ability and intent to deal with those needs.

Step Three. Conduct a situational analysis to determine the businesses needs and its capacity to address the literacy problems present. Three aspects of the business should be considered in this analysis: organizational needs, organizational climate and organizational resources. In this step the goals are a.) to determine if the problems identified have educational solutions and if the educational solutions have a literacy component; b.) to identify organizational supports and potential obstacles to the development of workplace literacy interventions and c.) to obtain the business leaders' commitment to allocate resources to literacy services.

Step Four. The planning team negotiates the workplace literacy intervention. The goal is to establish a plan and contract with the appropriate entity(ies) that will provide literacy services to meet the specified needs that have been identified within the business.

Step Five. Establish a partnership for program planning and implement the workplace literacy program. The goal is to implement a program that meets the needs of the business and is perceived by employees to be worthwhile while at the same time establishing an agenda for future partnerships and program planning. Developing a successful workplace literacy program is always directly linked to the nature, culture, and climate in the workplace. It is a complex task and one that is best undertaken with clearly established partnerships and systems of support.

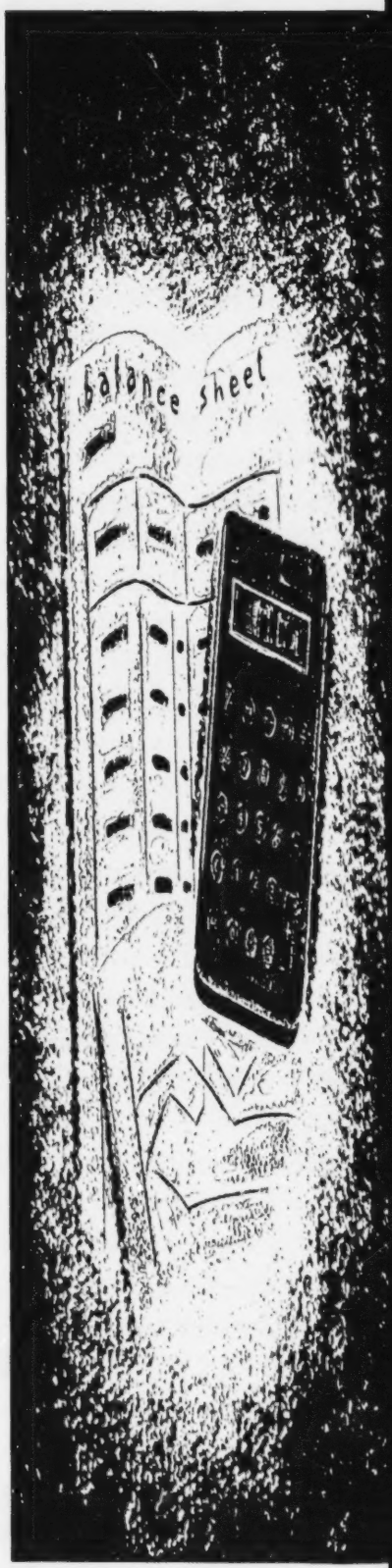

Chart 11. Steps for Starting a Workplace Literacy Program[54]

Step One: In the community create awareness by:

- Engaging community representatives in a community partnership.
  - Recruit workplace literacy coalition or task force membership.
  - Solicit workplace literacy program sponsorship.
  - Present workplace literacy issues to the community.
  - Solicit the expertise of the business community

- Once you have capture the attention of business, there are questions that need to be answered in order to determine business and industry needs.
  - What are the concerns and problems of the business community?
  - Have there been changes in local business and industry (new industry, plant closings, lay offs)?
  - Have there been major changes in transportation routes, population characteristics?
  - What are the projected changes in the community that may produce new educational needs (new industry, plant closings)?
  - What are the existing educational services, specifically what are the existing literacy services in the community?
  - Do the existing educational services meet the needs of the local workforce?
  - Are there population segments with special needs that are not being met with existing educational services (ex: ESL programs, programs for disabled adults)?
  - Are members of he community using the educational services that are available?
  - Is the local workforce using educational services for literacy instruction or career development?
  - What are the other organizations in the community concerned or involved with workplace literacy?
  - What are the regional, state, or national coalitions that are available for support and resources?

- Use a variety of information sources to help determine the needs of business and industry in the community.
  - Perform community survey.
  - Perform community leader survey.
  - Study census information.
  - Review library materials and other pertinent literature.

Step Two: In the organization: develop readiness by:

- Communicating within the organization the interest in and understanding of workplace literacy.
  - Determine the organization's definition of workplace literacy.
  - Determine the organization's perception of literacy services
  - Make a decision regarding the course of action to be taken to promote literacy services.
  - Investigate what has been done in the past in terms of educational programming.

- Being prepared to talk with business in terms of the types and costs of appropriate workplace literacy programs.
  - Anticipate possible questions or problems and suggest options and possible solutions.
  - Provide information about literacy services, including costs, content, and instructional methods.
  - Facilitate organization and management of literacy services.
  - Be prepared to aid in the preparation of promotional and recruitment activities and materials.
  - Assist with record keeping.
  - Suggest and design special presentations and materials.
  - Provide instructional equipment when possible.

Step Three: Conduct A Situational Analysis of Business & Industry

Organizational Needs

The organization provides information in response to the following questions:

- What are the perceived needs at the organizational level?
  - Has the organization experienced changes or are there projected changes?
    Are there new systems on the same job?
    Are there new procedures for old systems?
    Are there new responsibilities for the same job and same systems?
    Are there new responsibilities for new jobs and new systems?
  - Is the organization concerned about current or potential performance problems?
    Are there procedures not being fully or correctly utilized?
    Are there problems in productivity?
    Is the organization concerned with costliness of errors?
    Is the organization concerned with costliness of waste?
    Have there been accidents or legal liabilities?
  - Does the organization have a sufficient pool of qualified workers?

- What are the perceived needs at the job level?
  - Are there required professional standards or certifications?
  - Are there performance problems associated wit specific job(s) or job clusters?
  - Are there projected changes in specific job(s) or job clusters?

- What are the perceived needs at the employee/trainee level?
  - Are there employees or trainees unable to meet professional standards or certification requirements?
  - Are job level performance problems due to poor performance on the part of specific individuals?

Organizational Climate

- The organization takes into account the following factors to negotiate a successful program:
  - What is the:
    Structure of the organization?
    Chain of command?
    Leadership style?
    Role of Unions?
    Type of contractual agreements?
    Organization's view of education as essential to its mission?
    Goals of the organization?
    Conflicts within the organization (internal)?
    Stressors on the organization (internal and external)?

Organizational Resources

- The organization's resources should be assessed in order to enhance workplace literacy program development. An assessment should answer the following questions:
  - What are the resources available for literacy services in terms of investments of time, space, funds, expertise?
  - Who makes the decisions regarding allocations of resources?

Step Four: Negotiate the Workplace Literacy Intervention

- The agreement between the organization and the literacy service provider should address the following questions:
  - What are the current and projected skills and knowledge requirements (reading, writing, speaking, listening, math, and content knowledge)?
    Process: Tour the organizational facilities and observe language and math used on the job. Interview job experts to understand skill requirements of specific tasks and use. Obtain relate reading materials and evaluate difficulty level. Analyze literacy requirements in terms of importance and frequency.

- Which employees have adequate literacy skills to meet those needs?
  Process: Obtain information regarding employees' educational backgrounds. Obtain information regarding employees' skill levels in relation to job skill requirements.
- What is the role of the literacy provider in servicing skills and knowledge needs? To function as a clearinghouse of resources, to act as an educational consultant, to provide instruction or to provide assessment?
- Determine occupational-focus of instruction.
  Process: Determine the specific tasks or tests that require improved performance. Determine the knowledge requirements for job training.
- What are the deliverables, in terms of number of hours of instruction, and expected outcomes of instruction?
- Who is responsible for what? What are the responsibilities of the business or industry, the union, or the literacy service provider?
- When does delivery take place? What is the planning and implementation time line?
- Who gets what information, in terms of results of needs assessments, results of evaluation and results of program completion?
- How much will the intervention cost (organizational resources, purchased services, contributions/gifts/in-kind donations, matching funds and cost reimbursement)?

Step Five: Program Planning

- Establish partnership in program planning within the organization.
  - Gain support of top management.
  - Solicit input from management, labor, trainers and supervisors.
  - Form a joint planning committee.
- Include goal setting and objectives in the partnership agenda.
  - Clarify the purpose, process and limits of goal-setting authority.
  - Set short and long term goals.
  - Set standards for accountability.
- Include planning instruction in the partnership agenda
  - Identify learning objectives. Use a combination of standard and occupational specific objectives.
  - Identify appropriate instructional methods.
  - Select instructional materials.
  - Design evaluation strategy.

Evaluation of a Workplace Program

For many employers that "bottom line" for any workplace program is the extent to which the learning gains can be linked to improved performance on the job and more, high quality productivity. The real transfer of learning is often very difficult to determine, but one thing is certain: no single assessment strategy is enough to measure overall learning. Many organizations have begun using multiple approaches (such as portfolio assessments, peer assessment, simulations and documentation of incidental learning, including the ability to perform other work related tasks or solve problems more accurately on the job.).[55]

A process for workplace literacy evaluation includes the following tasks[56]:

- Conduct Needs Assessment. Evaluation begins with the needs assessment that determines the needs of the target population.
- Set Program Goals and Outcomes.
- Establish Program Objectives Based on the Goals and Outcomes.
- Determine Methods or "Tools" for Assessment
- Establish a Timeline for Meeting the Goals and Outcomes.
- Determine a Budget for Evaluation
- Identify Evaluators (Internal or External)
- Determine an Evaluation Timeline
- Determine a Strategy for Using the Evaluation Results
- Disseminate the Evaluation Results.
- Modify the Program Accordingly

Evaluation should be a continuous process and should play an important role in program planning and modification. If results show that the program is not worth the cost, then it needs to be modified or dropped. The purpose of evaluating any program is to measure the effectiveness, but it should also help program planners make decisions about how to improve the program. What went right? What went wrong? Ultimately program evaluation will help literacy providers better serve employers and make better use of available resources within the community.

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Frequently Asked Questions and Helpful Tips For Those Who Want to Get Started

There are some questions that are frequently asked by those who want to establish a workplace literacy program in their community or work site.[57]

What if my employees need to improve their workplace basic skills, but are not very receptive to the idea of a workplace education program? You can take action by first involving the employees in planning and designing your organization's workplace education program. Open communication is also very important. Communicate in a nonthreatening and non-judgmental way the nature of your organization's workplace education program and how it will benefit them. The best workplace programs provide incentives for participation. Work release and linking participation to increased responsibility and pay are excellent examples of a program incentive. Recognize and reward those employees who participate and are successful in the program. One way to do this would be by linking employee participation in the workplace education program to their performance review.

What if my company is small and doesn't have a lot of money to spend? There are several things that small business can do to take action. First, they can reduce expenses by involving the employees in the program development and delivery. Second, small companies can obtain sponsorship for their program or exchange in-kind services with a local literacy provider such as the literacy council. Another possibility would be to explore opportunities for government funding or to look for funds from private foundations or endowments. If your business is located near a college or technical school you might look at the possibility of using students as instructors and tutors. A volunteer agency might also be a source for instructional support. Finally local labor and governmental offices can be contacted for advice, help and information.

Where can I go for expert help? If you need expert help start first by looking in your own backyard. There is probably help nearby. Form partnerships with nearby government agencies, community or technical colleges, high schools or educational institutions. You can also contact other local employers who have already established a workplace education program. Ask them if they would be willing to send a representative to work with you and mentor you as you plan and develop your program. You might also contact your local Chamber of Commerce, economic development agency or employment office. These organizations collect data and information about demographic and employment trends that may be useful to your organization. Faculty and students from local universities, colleges, and schools may also be a source of expert information and assistance.

What Workplace Literacy Resources Are Available?

Many resources have been identified throughout this report. Some additional resources are cited below. For those reading the web version of this report, the blue underlined text is linked to the web site for your convenience. By going to these web sites an entire resource collection on workplace literacy is available to you. This listing is selective, but by accessing these sites other resource agencies can be identified and their resources accessed.

General Information About Workplace Basic Skills Programs

- For more information about the terms used in training and education see: www.alx.org/glossary.asp?usertype=learner
- For more information about workplace basic skills and employability skills see Workforce Learning System, Employability Skills: www.casas.org or www.nssb.org
- For an overview of workplace basic skills programs see: www.workplacebasicskills.com
- For information about Manufacturing Skill Standards see: www.msscusa.org/publication/index.cfml
- For information about funding a workplace education program see: http://usworkforce.org

Agencies and Institutional Resources

American Society for Training and Development
1640 King Street
P.O. Box 1443
Alexandria, Virginia 22313
Phone: (703) 683-8100
http://www.astd.org

ASTD is a professional association and leading resource on workplace learning and performance issues. They provide information, research, analysis and practice information derived from its own research, the knowledge and experience of its members, its conferences, expositions, seminars, publications, the coalitions and partnerships it has built through research and policy work.

Employee Training Institute
3443 Camino del Rio South Suite 308
San Diego, CA 92108
Phone: (619) 624-2272
http://www.workplace-eti.com

Consulting, training and economic development services are available through ETI to individuals, businesses and government agencies. Services include basic skills training, customized training, seminars and workshops, web and CD-based training.

The Institute for the Study of Adult Literacy
Penn State University
102 Rackley Building
University Park, PA 16802-3202
Phone: (814) 863-3777
http://www.ed.psu.edu/isal

The Institute is internationally recognized for its work in literacy research, development and dissemination activities. The Institute's mission stresses the importance of connecting research to improve practice. The institute has a number of projects and publications that focus on workplace literacy.

National Institute for Literacy
800 Connecticut Avenue, N.W.
Washington, D.C. 20202
Phone: (202) 632-1500
http://www.nifl.gov

NIFL was created in 1993 as a result of the National Literacy Act. NIFI is the core agency for regulating literacy initiatives. NIFL has a Comprehensive collection of workforce education resources that focus on the basic skills and literacy needs of the workforce. Activities and links exclusively related to workforce education.

National Alliance of Business
1201 New York Avenue, N.W. Suite 700
Washington, D.C. 20005
Phone: (202) 289-2888
http://www.nab.com]

The National Alliance of Business is a national nonprofit business organization which serves as the voice of business to improve student performance at all levels — K-12, postsecondary and higher education. NAB's 5,000 members include companies of all sizes and industries, CEOs, senior executives, educators and business-led coalitions.

The Conference Board
845 Third Avenue
New York, NY 10022
Phone: (212) 759-0900
http://www.conference-board.org]

The Conference Board is the premier business membership and research network worldwide. It links executives from different companies, industries and countries. Founded in 1916, the Conference Board has become the leader in helping executives build strong professional relationships, expand their business knowledge, and find solutions to a wide range of business problems. The Conference Board's twofold purposes are to improve the business enterprise system and to enhance the contribution of business to society. A not-for-profit, non-advocacy organization, The Conference Board's membership includes more than 3,000 companies and other organizations in 67 countries.

21st Century Workforce Commission
1201 New York Avenue, N.W.
Washington, D.C. 20005
Phone: (202) 693-5082
http://www.workforce21.org

The 21st Century Workforce Commission is an independent commission, appointed by the President and Congress. The Commission is charged with examining and reporting to the President, the Congress and the Nation, what are the knowledge and skills that individuals must have and what educational and workforce development opportunities must be available to allow the greatest number of Americans to successfully participate in a 21st Century Information and Technology Workforce.

US Dept. of Education, Office of Vocational and Adult Education (OVAE)
4090 MES
400 Maryland Avenue, S.W.
Washington, DC 20202
Phone: (202) 205-5451
http://ed.gov/offices/OVAE/

The Office of Vocational and Adult Education (OVAE) supports a wide range of programs and activities that help young people and adults obtain the knowledge and skills they need for successful careers and productive lives. Workplace literacy sources are coordinated through this division. This web site has extensive resources available to literacy educators and those business leaders who want to understand more about workplace literacy programs, what they are and how they work.

South Carolina Resources

South Carolina Department of Education
Division/Office of Adult and Vocational Education
1006 Rutledge Building, 9th floor
1429 Senate Street
Columbia, SC 29201
(803) 734-8492
www.state.sc.us/sde/

South Carolina Literacy Resource Center
1722 Main Street, Suite 104
Columbia, SC (803)929-2563 or Toll Free (SC only) 1-(800) 277-READ
SCLRC@aol.com

The South Carolina Literacy Resource Center is currently managed by the Department of Education, Division (Office) of Adult and Vocational Education. Each state is required under the National Literacy Act to have such a center. See the National Institute for Literacy http://www.nifl.org LINCS system to see a listing of all the literacy resource centers and to find out what is going on in other states related to workplace literacy.

South Carolina Chamber of Commerce
1201 Main St. Suite 1810
Columbia, SC 29201-3254
(803) 799-4601
www.sccc.org

The South Carolina Chamber of Commerce is the state's most prestigious and largest broad-based business trade association. Operating as a statewide, non-partisan, non-profit organization, the South Carolina Chamber represents businesses, industries, professions and associations of all sizes and types. The chamber is a source of information on all aspects of business and industry including projects of future workplace trends and needs.

South Carolina Workplace Resource Center
400-A Church St.
Laurens, SC
(864) 984-1928
http://www.scwrc.org

The SC Workplace Resource Center (WRC) was established in 1998 in order to assist adult educators throughout the state of South Carolina in the delivery of quality workplace programs for business and industry. WRC is a program of the South Carolina Department of Education and is funded through the Office of Adult and Community Education.

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